

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov



Work Shop on Indoor Environmental Quality Research Roadmap

The California Energy Commission's Public Interest Energy Research (PIER) program will conduct a staff workshop to identify information gaps and research needs to address acceptable indoor environmental quality (IEQ) as California moves to zero net energy buildings as identified in the 2009 Integrated Energy Policy Report.

JULY 28, 2011
9 a.m. to 12 p.m.
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
First Floor, Hearing Room B
Sacramento, California
(Wheelchair Accessible)

Remote Attendance and Availability of Documents

Internet Webcast - Presentations and audio from the meeting will be broadcast via our WebEx web meeting service. For details on how to participate via WebEx, please see the "Remote Attendance" section toward the end of this notice.

Documents and presentations for this meeting will be available online at:

www.energy.ca.gov/research/notices/

Purpose

The purpose of this workshop is to identify research priorities for IEQ research needed to inform future Building Energy Efficiency Standards. Research priorities will be identified in the context of the State's plans to accelerate the construction of zero net energy buildings and the retrofitting of existing buildings.¹ The IEQ research that the Commission funds will have significant implications for future building energy standards and best practices. For example, proposed research topics may address ventilation, air

¹ California Energy Commission, 2009 Integrate Energy Policy Report, final commission Report, December 2009, CEC -100-2009-003-CMF. http://www.energy.ca.gov/2009_energypolicy/index.html. The California Efficiency Strategic Plan, January 2011 Update. http://www.cpuc.ca.gov/NR/rdonlyres/A54B59C2-D571-440D-9477-3363726F573A/0/CA_Energy_Efficiency_Strategic_Plan_Jan2011.pdf.

filtration, and improved building envelope measures that consider human health and thermal comfort.

This workshop is to solicit input from the stakeholder community on the following:

- Likely scenarios related to achieving zero net energy buildings and building retrofit goals that will affect the quality of indoor air, acoustics, and thermal comfort
- Research gaps
- Potential research topics to address those gaps

Background

Indoor environmental quality (IEQ) is a major factor in the health, safety, and productivity of people. It includes the aspects of air pollution, thermal comfort, acoustic quality, and lighting quality. For California, the economic impacts of indoor air quality on health and productivity alone have been estimated to be at least \$45 billion per year. About \$11 billion of the total impact was attributed to health impacts from indoor air pollution other than environmental tobacco smoke, and about \$9 billion was attributed to lost productivity in office workers and teachers.

The California Energy Commission is required to set standards for energy efficiency for both new and existing buildings and for new appliances. It also must consider indoor air quality impacts in setting energy efficiency standards for buildings and appliances. In 2001-2002, the Commission along with a consortium of state energy agencies funded an expert consultant to develop a research plan for energy-related IEQ. In 2002, the PIER program co-funded a research roadmap on indoor environmental quality. (Energy-Related Indoor Environmental Quality Research: A Priority Agenda, <http://eetd.lbl.gov/ie/pdf/lbnl-51328.pdf>) which has guided subsequent research, including studies of new residential buildings, small and medium commercial buildings, early childhood education facilities (in progress), ventilation system performance in new homes and schools, HVAC performance in new homes, and pollutant emissions from office equipment.

Existing buildings account for the greatest potential for greenhouse gas (GHG) reductions in the building sector. About two-thirds of California's homes and apartments – more than 8 million homes – were built prior to California's 1982 energy efficiency standards, and a similar fraction of commercial buildings were built before the 1978 energy efficiency standards.

In order to incorporate these major changes in legislation, programs, and policies, the California Energy Commission needs to update its IEQ research and development (R&D) priorities for the next decade. It will also need to consider the ramifications SB 375 (2008) mandated programs as they affect densification of buildings and their proximity to pollutant emissions from vehicle traffic and nearby buildings.

The research priority update is being conducted in the context of the push for zero net energy buildings and increased retrofitting of existing buildings. The 2009 Integrated Energy Policy Report calls for:

- All new residential construction in California to be zero net energy by 2020
- All new commercial construction in California to be zero net energy by 2030
- Heating, Ventilation and Air Conditioning (HVAC) to be transformed to ensure its energy performance is optimal for California's climate

Public Participation

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission activities. If you want information on how to participate in this forum, please contact the Public Adviser's Office at (916) 654-4489 or toll free at (800) 822-6228, by FAX at (916) 654-4493, or by e-mail at PublicAdviser@energy.state.ca.us. If you have a disability and require assistance to participate, please contact Lou Quiroz at (916) 654-5146 at least five days in advance.

Please direct all news media inquiries to the Media and Public Communications Office at (916) 654-4989, or by e-mail at mediaoffice@energy.state.ca.us.

If you have questions on the technical subject matter of this meeting, please call Marla Mueller, (916) 327-1716, or by email at mmueller@energy.state.ca.us.

Remote Attendance

You can participate in this meeting through WebEx, the Energy Commission's online meeting service. Presentations will appear on your computer screen, and you listen to the audio via your telephone. Please be aware that the meeting's WebEx audio and on-screen activity may be recorded.

Computer Log-on with Telephone Audio:

1. Please go to <https://energy.webex.com> and enter the unique meeting number: **928 002 613**
2. When prompted, enter your name other information as directed and the meeting password: **meeting@9:00**

Teleconference:

After logging in on the computer, an AUDIO CONFERENCE BOX will offer you the choice of phone connections:

1. TO HAVE WEBEX CALL YOU BACK: Type your area code and phone number and click "Call Me".

2. TO CALL INTO THE TELECONFERENCE: Use the drop-down box to select "I will call in" and follow the on-screen directions.
3. INTERNATIONAL CALLERS: Click on the "Global call-in number" link in part (2) above
4. TO LISTEN OVER THE COMPUTER: If you have the needed equipment and your computer is configured, click on "Use Computer Headset" and then "Call Using Computer" to use VoIP (Internet phone)

TELEPHONE ONLY (NO COMPUTER ACCESS): Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number: 926 186 306. International callers can select their number from

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Date: July 14, 2011

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